|  |  |  |
| --- | --- | --- |
| Start tuning MeXGB: 2022-09-15 11:35:05.438995 |  |  |
| **Start original MERF:** | **Start adjusted MERF:** |  |
| 2022-09-15 11:35:05.485825 | 2022-09-15 12:58:17.447408 |  |
| **Start E-step:** | **Start E-step:** |  |
| 2022-09-15 11:37:58.423338 (3 min) | 2022-09-15 13:00:05.697541 (2 min) | 1.5 |
| **Start M-step:** | **Start M-step:** |  |
| 2022-09-15 11:42:55.735230 (5 min) | 2022-09-15 13:00:54.040987 (4.5 min) | 1 |
| **Start E-step:** | **Start E-step:** |  |
| INFO     [merfTEST.py:313] Training GLL is 2407710.6426012474 at iteration 1. | INFO     [merfTEST2.py:285] Training GLL is 2407710.6426018267 at iteration 1. |  |
| 2022-09-15 11:53:13.781369 (10 min) | 2022-09-15 13:05:21.665662 (5 min) | 2 |
| **Start M-step:** | **Start M-step:** |  |
| 2022-09-15 11:56:10.890124 (3 min) | 2022-09-15 13:06:07.884333 (1 min) | 3 |
| **Start E-step:** | **Start E-step:** |  |
| INFO     [merfTEST.py:313] Training GLL is 2417059.980837519 at iteration 2. | INFO     [merfTEST2.py:285] Training GLL is 2417059.9808375463 at iteration 2. |  |
| 2022-09-15 12:05:40.779893 (10 min) | 2022-09-15 13:10:35.149608 (4.5 min) | 2 |
| **Start M-step:** | **Start M-step:** |  |
| 2022-09-15 12:08:04.248328 (2.5 min) | 2022-09-15 13:11:21.305772 (1 min) | 2.5 |
| INFO     [merfTEST.py:313] Training GLL is 2423442.490281402 at iteration 3. | INFO     [merfTEST2.py:285] Training GLL is 2423442.490281921 at iteration 3. |  |
| **Done adjusted MERF:** | **Done original MERF:** |  |
| 2022-09-15 12:16:55.028173 (9 min) | 2022-09-15 13:15:47.789802 (4.5 min) | 2 |
| 2505.5505158 (41 min) | 1037.0436429000001 (17 min) | 2.5 |

self  
48  
X  
15986716  
Z  
2062928  
clusters  
4125616  
y  
4125616  
X\_val  
16  
Z\_val  
16  
clusters\_val  
16  
y\_val  
16  
start30  
24  
n\_clusters  
28  
n\_obs  
28  
q  
28  
Z\_by\_cluster  
5242968  
y\_by\_cluster  
5242968  
n\_by\_cluster  
5242968  
I\_by\_cluster  
5242968  
indices\_by\_cluster  
5242968  
cluster\_id  
28  
indices\_i  
2320666  
iteration  
28  
b\_hat\_df  
6129256  
sigma2\_hat  
32  
D\_hat  
136  
early\_stop\_flag  
24  
y\_star  
2062912  
y\_i  
32  
Z\_i  
136  
b\_hat\_i  
152  
y\_star\_i  
32  
f\_hat  
112  
sigma2\_hat\_sum  
32  
D\_hat\_sum  
136  
n\_i  
32  
I\_i  
136  
f\_hat\_i  
116  
V\_hat\_i  
136  
V\_hat\_inv\_i  
136  
eps\_hat\_i  
32  
gll  
32  
R\_hat\_i  
136  
\_  
32  
logdet\_D\_hat  
32  
logdet\_R\_hat\_i  
32  
63030502  
 Backend TkAgg is interactive backend. Turning interactive mode on.  
Start original MERF:  
2022-09-15 12:58:17.447408  
  0%|          | 0/1 [1:23:11<?, ?trial/s, best loss=?]\\department-p.erasmusmc.nl\mage\Data\UserData\079915\Thesis -- Code\merfTEST2.py:164: SettingWithCopyWarning:   
A value is trying to be set on a copy of a slice from a DataFrame  
See the caveats in the documentation: [https://pandas.pydata.org/pandas-docs/stable/user\_guide/indexing.html#returning-a-view-versus-a-copy](https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html" \l "returning-a-view-versus-a-copy" \o "https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy" \t "_blank)  
  y["id"] = copy.deepcopy(clusters)  
Start E-step:  
2022-09-15 13:00:05.697541  
Start M-step:  
2022-09-15 13:00:54.040987  
Start E-step:  
INFO     [merfTEST2.py:285] Training GLL is 2407710.6426018267 at iteration 1.  
2022-09-15 13:05:21.665662  
Start M-step:  
2022-09-15 13:06:07.884333  
Start E-step:  
INFO     [merfTEST2.py:285] Training GLL is 2417059.9808375463 at iteration 2.  
2022-09-15 13:10:35.149608  
Start M-step:  
2022-09-15 13:11:21.305772  
1037.0436429000001  
INFO     [merfTEST2.py:285] Training GLL is 2423442.490281921 at iteration 3.  
self  
48  
X  
24440900  
Z  
2062928  
X\_val  
16  
Z\_val  
16  
clusters\_val  
16  
y\_val  
16  
start30  
24  
n\_clusters  
28  
n\_obs  
28  
q  
28  
y\_by\_cluster2  
5242968  
Z\_by\_cluster2  
5242968  
n\_by\_cluster2  
5242968  
I\_by\_cluster2  
5242968  
group\_indices  
5242968  
iteration  
28  
b\_hat\_df2  
6129256  
sigma2\_hat2  
32  
D\_hat2  
136  
early\_stop\_flag  
24  
i  
28  
f\_hat2  
112  
sigma2\_hat\_sum2  
32  
D\_hat\_sum2  
136  
gll2  
32  
\_  
32  
logdet\_D\_hat2  
32  
logdet\_R\_hat\_i2  
32  
58848800  
Done original MERF:  
2022-09-15 13:15:47.789802  
  0%|          | 0/1 [1:40:42<?, ?trial/s, best loss=?]

|  |  |  |
| --- | --- | --- |
| Start tuning MeXGB: 2022-09-15 11:35:05.438995 |  |  |
|  | **Start adjusted MERF:** |  |
| 15:01:21 | 2022-09-15 12:58:17.447408 |  |
|  | **Start E-step:** |  |
| 15:13:12 (12 min) | 2022-09-15 13:00:05.697541 (2 min) | 1.5 |
|  | **Start M-step:** |  |
| 15:19:50 (5.5 min) | 2022-09-15 13:00:54.040987 (4.5 min) | 1 |
|  | **Start E-step:** |  |
|  | INFO     [merfTEST2.py:285] Training GLL is 2407710.6426018267 at iteration 1. |  |
|  | 2022-09-15 13:05:21.665662 (5 min) | 2 |
|  | **Start M-step:** |  |
|  | 2022-09-15 13:06:07.884333 (1 min) | 3 |
|  | **Start E-step:** |  |
|  | INFO     [merfTEST2.py:285] Training GLL is 2417059.9808375463 at iteration 2. |  |
|  | 2022-09-15 13:10:35.149608 (4.5 min) | 2 |
|  | **Start M-step:** |  |
|  | 2022-09-15 13:11:21.305772 (1 min) | 2.5 |
|  | INFO     [merfTEST2.py:285] Training GLL is 2423442.490281921 at iteration 3. |  |
|  | **Done original MERF:** |  |
|  | 2022-09-15 13:15:47.789802 (4.5 min) | 2 |
|  | 1037.0436429000001 (17 min) | 2.5 |